

WHAT IS CLAIMED IS:

1. A flexible article having sense of touch, comprising:
a hollow member formed by injection molding of TPR; and
5 a jellylike substance filled in the hollow member, the jellylike substance being formed from PVA solution including PVA, water, and plasticizer.
2. The flexible article of claim 1, wherein the PVA solution further comprises softness enhancing additive.
- 10 3. The flexible article of claim 1, wherein the PVA solution is comprised of 3 wt% to 30 wt% PVA, 20 wt% to 85 wt% water, and 0.5 wt% to 10 wt% plasticizer.
- 15 4. The flexible article of claim 1, wherein the PVA solution is comprised of 30 wt% PVA, 60 wt% water, and 10 wt% plasticizer.
- 20 5. The flexible article of claim 1, wherein the plasticizer is selected from a group comprising Na_2CO_3 , Na_2SO_4 , $(\text{NH}_4)_2\text{SO}_4$, boric acid (H_3BO_3), and borax ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$).
6. The flexible article of claim 2, wherein the softness enhancing additive has a weight percentage 0% to 20% of the PVA solution.
- 25 7. The flexible article of claim 2, wherein the PVA solution is comprised of 4 wt% PVA, 80 wt% water, 1 wt% plasticizer, and 15 wt% softness enhancing additive.

8. The flexible article of claim 2, wherein the softness enhancing additive is selected from a group comprising glycerin ($C_3H_5(OH)_3$), ethylene glycol ($C_2H_4(OH)_2$), polyethylene glycols ($H(OCH_2CH_2)_nOH$), propylene glycol ($C_3H_6(OH)_2$), and triethanol amineacetate.

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9. A method of manufacturing a flexible article having sense of touch, comprising the steps of:

(i) forming a hollow member by injection molding of TPR with a hole formed thereon;

10 (ii) forming a cap by injection molding of TPR, the cap including a thick, cylindrical body and a thin peripheral member having a diameter equal to or larger than that of the hole;

(iii) adhering the cap to the ball by applying adhesive to both the cap and the hole for blocking the hole so as to form an airtight member;

15 (iv) injecting PVA solution into the member by piercing through the body by a syringe;

(v) injecting plasticizer solution into the member; and

(vi) rubbing the member for about predetermined seconds and plasticizing the solution contained in the member in a room temperature for forming a flexible article contained jellylike substance.

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10. The method of claim 9, further comprising the step of (v-a) injecting softness enhancing additive into the member to mix with the solution containing PVA, water, and plasticizer in a room temperature for increasing softness and ductility of the formed article before carrying out the step (vi).

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11. The flexible article of claim 9, wherein the plasticizer is selected from a

group comprising Na_2CO_3 , Na_2SO_4 , $(\text{NH}_4)_2\text{SO}_4$, boric acid (H_3BO_3), and borax ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$).

12. The method of claim 9, further comprising the step of (iv-a) injecting
5 softness enhancing additive into the member to mix with the solution containing PVA and water before carrying out the step (v).

13. The flexible article of claim 10, wherein the softness enhancing additive is selected from a group comprising glycerin ($\text{C}_3\text{H}_5(\text{OH})_3$), ethylene glycol
10 ($\text{C}_2\text{H}_4(\text{OH})_2$), polyethylene glycols ($\text{H}(\text{OCH}_2\text{CH}_2)_7\text{OH}$), propylene glycol ($\text{C}_3\text{H}_6(\text{OH})_2$), and triethanol amineacetate.

14. The flexible article of claim 9, wherein the PVA solution is comprised of 3 wt% to 30 wt% PVA, 20 wt% to 85 wt% water, and 0.5 wt% to 10 wt%
15 plasticizer.

15. The flexible article of claim 10, wherein the softness enhancing additive has a weight percentage 0% to 20% of the PVA solution.